Abstract ID : 430

Title : Temporal variation of feeding success in free ranging grey seals: Evidence from stomach temperature telemetry

Category : Ecology

Student : Doctoral

Preferred Format : Oral Presentation

Abstract : Despite rapid growth in our knowledge of pinniped diving behaviour, and by inference, their foraging behaviour, we still know little about the frequency of successful feeding by pinnipeds. Yet, the temporal distribution of feeding can have significant implications for understanding how predators perceive the patchiness of prey. We studied feeding success in free-ranging adult grey seals (Halichoerus grypus) using stomach-temperature telemetry from 1999 to 2001. Data were retrieved from 21 of 32 animals (12 males, 9 females) totalling 338 d, with individual record length varying from 2 to 46 d. Both the number of animals and the duration of sampling represent the first opportunity to use such data in a quantitative analysis of foraging. A total of 583 putative feeding events were identified using a custom computer algorithm that recognized temperature drops of greater than 2 standard deviations from the mean, indicating prey ingestion. Temperature records averaged 15.1±2.3 [SE] d, and successful feeding events occurred in an average of 59.5±6.4% of days. Males had a greater percentage of days with successful foraging (79.3±14.6%) than females (47.0±7.4%), but this difference was not significant (Mann-Whitney, P=0.07). The mean number of successful events per day was significantly greater in males (2.5±0.4) than in females (1.1±0.2, P = 0.02). Similarly, the average time associated with successful feeding per day was significantly greater for males (111±23 min) than females (52±10 min; t-test, P=0.05). Further, the amount of time associated with feeding throughout the day differed significantly between the sexes (Repeated-measures GLM, P=0.02), with females less likely to feed during early to mid-morning. The time between feeding events was positively skewed (P=0.001) indicating that successful feeding was highly clustered in both sexes. These results provide new insight as to the basis of sex differences in diving behaviour and diet in this size dimorphic species.